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Trajectoires de vulnérabilité des territoires de montagne face aux changements globaux

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- 1 How should we understand the different ways in which global changes are affecting territories? And how can the dynamics that form part of mountain areas' long-term evolution be made intelligible? The aim of this thematic issue of the *Journal of Alpine Research/Revue de géographie alpine*, entitled "Mountain areas' trajectories of vulnerability amidst global change", is to explore the territorial dynamics at the crossroads of societal phenomena and climatic and environmental phenomena within a long time frame. Thus, we propose a consideration of how areas are constructed and will do so by relying on the notion of trajectories of vulnerability.
- 2 This issue strengthens the idea that areas' vulnerability has to be studied by taking into account the simultaneous evolutions that society and the environment have undergone. Global changes are a perfect illustration of this and highlight the need to analyse the current territorial dynamics from a global perspective. Studying them allows us to understand how societal, economic and environmental changes can alter mountain areas' development models. Drawing on the notion of a trajectory makes it possible to point to major trends in a system's development since short-term responses to changes that may be consequential in the future can increase the territory's vulnerability in the long term. The trajectory is a chain of processes constituting an evolution that is specific to each territory and can take place in multiple time frames. All the time frames and actors involved in these transformations have to be included in the concept of trajectories. The possibility of illuminating points of rupture in the territorial dynamics, linked as much to internal shocks (collapse of the organisational model, resource depletion, natural disasters etc.) as to shocks that are external to the territories (economic crisis, climate change etc.), may also call their development models into question. In this sense, entire sequences of mutations, transformations and bifurcations in the territorial trajectories can be identified.
- 3 The trajectory gives a dynamic and temporal aspect to vulnerability, which cannot focus solely on a particular moment in time. Here, vulnerability is broadly considered as a

product of the degree of exposure, of sensitivity (the totality of the factors that determine a society's involvement) and of the capacity to adapt to change (Smit & Wandel, 2006). Thus, using the notion of trajectory permits us to highlight the transformation that the vulnerability of territories is undergoing.

- 4 The articles included in this issue provide an overview of various mountain areas, from Ecuador to France, Morocco and Eastern Europe (the Tatra Mountains). In each case, the authors voluntarily opted for a global understanding of territorial dynamics and the trajectory of a territory's vulnerability by taking into considering a set of (socio-economic, political, climatic and environmental) elements. How can these various data points reconstruct the trajectories, and what are the issues it might raise?
- 5 First of all, Thomas Spiegelberger's group article uses the *chronosystemic frieze* as an *intermediary tool of interdisciplinary knowledge* to reconstruct territorial trajectories at the intersection of human sciences and earth sciences. Basing their work on a case study of the Quatre Montagnes area in the Vercors region, the group of researchers proposes a methodology to monitor the trajectories of vulnerability of a space and its environmental resources.
- 6 Christine Bouisset, Sylvie Clarimont and Isabelle Degrémont's article focuses on the representation of local actors amidst climate change, how it evolves over time and how it can modify the mountain area's vulnerability to risk. The authors also analyse how perceptions related to climate change can influence adaptive capacities and increase the particular areas' vulnerability. In this way, the article shows how the actors' relationship to the environment influences territorial trajectories.
- 7 In Morocco, the massive planting of prickly pears in the Tazrout Valley spurred Majda Mourou and her co-authors to examine the trajectory of vulnerability through the prism of successive changes that the area's agrarian systems and socio-economic organisation have undergone. This article shows us that the development of an agrarian system, even if it leads to a certain resilience with the return of an ecological balance, may intensify social vulnerability. Indeed, following the choice of an agricultural specialisation geared almost exclusively towards the prickly pear cactus, the area has experienced rising social conflict regarding land access and the distribution of wealth. The authors offer two possible scenarios, one of which combines the growing of the fig tree and the argan tree and would help reduce the burden on the social dimension.
- 8 In their article, Nasser Rebaï and Julio A. Alvarado Vélez consider the impact of so-called modernisation public policies in the primary sector on Ecuador's *Sierra* region. Several local spots are analysed and reveal that the policies have exacerbated this area's social and environmental vulnerability amidst global changes. The work involves identifying these evolutions and showing how a series of events will increase territorial vulnerability.
- 9 Focusing on a shorter period of time than the previous work, Michel Lompeche's study of the Slovak side of the Tatra Mountains shows that an extreme event may be the starting point for analysing a trajectory of vulnerability. The author examines the interaction between a particularly significant political evolution for this area (peak and downfall of the socialist regime) and an environmental evolution that makes it possible to reconstitute the trajectory of vulnerability of these "pocket Alps".
- 10 Finally, the analysis of trajectories of vulnerability also makes it possible to consider a prospective dimension, as demonstrated by Jon Marco Church's article analysing the Ardennes forest massif's governance system by probing transformational research

methods in the field of sustainability. After highlighting the area's primary vulnerabilities, the author proceeds to build forward-looking strategies and identify adaptations of the governance system in relation to climate change to move towards greater sustainability.

- 11 These different articles show that an analysis using vulnerability trajectories produces a particularly effective reading grid to identify territorial dynamics in the light of global changes. The importance of this concept lies mainly in its ability to integrate the different dimensions of territorial transformations into a systemic and global way of thinking that links together several spatial scales.
- 12 The analysis of the trajectories of vulnerability makes it possible to give some thought to the decision-makers by identifying the catalysts of the territory's transformations and the factors increasing (socio-economic and environmental) vulnerabilities. From there, in the search for alternatives to the current functioning of territories, prospective scenarios can be imagined to put in place a locally anchored adaptation to the global changes.

## BIBLIOGRAPHY

Grataloup C., 2005.- « Géographie historique et analyse spatiale : de l'ignorance à la fertilisation croisée », in Boulanger P., Trochet J.-R. (dir.), *Où en est la géographie historique ? Entre économie et culture*, Paris, p. 33-42.

Magnan A., 2010.- « Questions de recherche autour de l'adaptation au changement climatique », *Natures Sciences Sociétés*, 2010 Vol. 18/3, p. 329-333.

Magnan A., Duvat V., Garnier E., 2012.- « Reconstituer les "trajectoires de vulnérabilité" pour penser différemment l'adaptation au changement climatique », in *Natures Sciences Sociétés*, 2012 Vol. 20/1, p. 82-91.

Smit B., Wandel J., 2006.- « Adaptation, adaptive capacity and vulnerability », in *Global Environmental Change*, n°16, pp. 282-292

Spindler J., 2005.- « Le financement des politiques locales du tourisme ». In *Annuaire des collectivités locales*. Tome 25. pp. 55-64.

Longépée E., 2014.- « La résilience des systèmes socio-écologiques des États atolliens dans le contexte du changement climatique : le cas de Kiribati (Pacifique Sud) », Thèse de Géographie. Université de La Rochelle, p 501.

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